

CITY OF ST. LOUIS SCHOOLS INFECTIOUS DISEASE CONTROL ADMINISTRATIVE GUIDELINES AND PROCEDURES

City of St. Louis Schools, in collaboration with the City of St. Louis Department of Health (DOH), have developed these Infectious Disease Administrative Guidelines and Procedures with the understanding that:

- All staff have a role in prevention of communicable disease.
- School nurses are responsible for education, identification, reporting, and notification and follow-up.
- School staff, who may feel themselves to be at risk during any potential or suspected exposure, can confidentially identify themselves to the school nurse, or Principal for notification planning.
- Laws and regulation are subject to change, the school nurse is responsible for maintaining up-to-date information through DOH and Missouri Department of Health and Senior Services (DHSS).
- These Administrative Guidelines and Procedures are not exhaustive, but relative to that most often seen in the school setting.
- Environmental safeguards through custodial responsibility are essential.
- These Administrative Guidelines and Procedures will be reviewed and updated annually.

INFECTIOUS DISEASES

Infectious diseases are illnesses caused by specific organisms: viruses, bacteria, fungi, or parasites. Infectious diseases that can be spread from one individual to another are called *contagious* or *communicable* diseases. Contagious illnesses are among the major problems that school health programs face, causing absences and physical discomfort for students and staff.

Infectious disease control measures in schools include:

- preventing infection from spreading;
- requiring certain immunizations;
- reporting some illnesses to DOH;
- temporarily excluding some children or staff who are ill or may be incubating communicable disease; and
- preparing to respond to outbreaks and emergencies of all types.

Diseases are divided into the following 8 categories.

1. Vaccine-Preventable Diseases
2. Diseases Spread Through the Intestinal Tract
3. Diseases Spread Through the Respiratory Tract
4. Diseases Spread Through Direct Contact
5. Diseases Spread Through Blood Contact
6. Sexually Transmitted Diseases
7. Diseases Spread from Animals to People (Zoonotic Diseases)
8. Sports-Associated Infectious Diseases

MISSOURI LAW AND INFECTIOUS DISEASES

Disease Reporting and Control

Some disease control activities are required by law or regulation. DHSS statutes (18 CSR 20-20.020) govern the reporting and control of communicable diseases. Said statute establishes specific reporting and surveillance requirements. In addition, the regulations outline the isolation and quarantine requirements for contacts of persons infected with certain communicable diseases in school and health care settings. These requirements include attendance guidelines for non-immune students and staff when cases of vaccine-preventable diseases are reported. A list of the reportable diseases that are subject to control under general reporting and isolation and quarantine regulations are provided at <https://www.sos.mo.gov/cmsimages/adrules/csr/current/19csr/19c20-20.pdf>.

Reporting

School nurses are responsible for reporting communicable diseases to DOH. School nurses may hear about a student's reportable disease from a variety of sources, including a local board of health, a child's medical provider, a parent/guardian, or an epidemiologist.

Confidentiality

Confidentiality is required by law and must be maintained by everyone, including the disease investigator (school nurse), clerical staff, administrative staff, teachers, and other school officials who may be aware of personal health information.

Isolation and Quarantine

Two key processes used to prevent the spread of communicable diseases are isolation and quarantine.

- *Isolation* refers to separating *people who are ill* from other people to prevent the spread of a communicable disease.
- *Quarantine* refers to separating and restricting the movement of *people who have been exposed* to a communicable disease and are not yet ill but may

become ill and infectious; these people are often referred to as “contacts” of the person who is known or presumed to be infected and infectious.

- DOH is authorizing agency for determining need for isolation and quarantine.

Immunizations

Missouri statutes (167.181) specifies minimum immunization requirements for enrollment in school. These requirements, as well as exclusion requirements, recordkeeping procedures, and requirements and recommendations for immunization of teachers and staff are discussed in the “Vaccine-Preventable Diseases” section. See also exhibit to Immunization Exemptions and Vaccine-Preventable Disease Exclusion Guidelines in School Settings.

INFECTION PREVENTION AND CONTROL IN THE SCHOOL SETTING

Infection Control Measures

The spread of communicable diseases can be controlled by the use of good infection control practices. Infection control practices include: age-appropriate immunization requirements for school entry; utilizing and teaching proper hand hygiene, respiratory hygiene/cough etiquette and standard precautions; utilizing appropriate personal protective equipment for staff; cleaning and disinfecting as per the school’s custodial protocol.

Some diseases require more specific prevention measures. Please refer to the individual disease sections that follow.

Hand Hygiene

Proper hand hygiene is the single most effective way to prevent the spread of most infections. Several studies have indicated an association between hand washing or use of alcohol-based hand sanitizers and reduction in school absenteeism due to infectious illnesses. Hand sanitizer is *not* a substitute for soap and water for certain situations, specifically after toileting. All bathrooms will be kept supplied with adequate soap and paper towels.

Custodial staff will:

- check bathrooms daily for soap, paper towels and bathroom tissue

Staff and students should practice hand hygiene:

- before eating or handling food; after toileting; and,
- after contact with blood or body fluids, non-intact skin, or nasal and respiratory secretions.

To properly wash and clean hands, the following procedures should be followed:

- Wash hands with soap and water when they are visibly soiled. Wet hands first with water, apply soap, and rub hands together vigorously for at least 20 seconds. Rinse hands with water and dry thoroughly. Use a towel to turn off the faucet.

Purell or other hand sanitizers that contain at least 70% ethanol can be used as a quick and effective way to sanitize your hands when they are **not visibly soiled**.

Fire Safety Issues:

- Purell and other effective hand sanitizers contain 70% ethanol to kill bacteria and viruses. This makes it quite flammable. Fire Regulations require that:
- Dispensers not be installed next to or above electrical outlets, switches, or near other sources of ignition (including electrical devices or oxygen outlets)
- A corridor width of 6 feet or greater is required for dispensers to be mounted in corridors.
- Dispensers must not be installed over carpeted surfaces unless they are located in a sprinklered smoke compartment

Standard Precautions

Standard precautions are used for all contact with blood and other body fluids, secretions, and excretions; non-intact skin; and mucous membranes. These precautions must be used at all times, regardless of a person's infection status or diagnosis.

Appropriate equipment (including personal protective equipment) must be readily available to staff members who are responsible for the clean-up of bodily spills.

Standard precautions include:

- Follow hand hygiene guidelines (see above).
- Wear gloves (clean, nonsterile) when touching blood, body fluids, non-intact skin, or contaminated items. Always practice hand hygiene whenever gloves are removed. **Gloves are not a substitute for hand hygiene.**
- Gowns, masks, and eye protection should be worn during procedures and activities that are likely to generate splashes or a spray of blood or body fluids.
- Disinfect surfaces and equipment contaminated with blood or body fluids using a 1:10 solution of bleach for 30 seconds, or any EPA-approved disinfectant used according to manufacturers' recommendations. Bleach

solutions should be mixed on a routine basis and stored in an opaque bottle.

- Dispose of all sharps in a puncture-proof container, this includes cutting tools that may have caused injury during use. (Scissors, exacto etc.)
- Dispose of infectious waste (anything contaminated with blood or body fluids) in a leak-proof sealable bag.

Custodial Staff Procedure

If necessary, block off area. Assemble the necessary equipment: Approved disinfectant, gloves, paper towels, disposal bag, if necessary, a mop, mop bucket, wringer. Optional equipment: gown, booties, cap, goggles, and wet floor sign.

- Put on gloves
- Spray floor with an approved disinfectant and let soak for 3-5 minutes.
- Wipe up with paper towel and place all contaminated paper towels in plastic disposal bag.
- Repeat process as many times as necessary to make sure that all material has been removed from the floor and other surfaces.
- When all blood or body fluids have been removed, spray area again with an approved disinfectant and allow to dry for 10 minutes.
- Seal bag and dispose outside of classroom.
- If a mop is used, mop head should be removed immediately after use and disposed of.

Respiratory Hygiene/Cough Etiquette

Posters and signs to remind students and staff about cough etiquette and hand hygiene will be displayed in bathrooms, cafeteria, classrooms etc. In addition, parents/guardians will receive similar information through school communication forums such as newsletters, and will be reminded to keep sick children home from school.

Education of students and staff on appropriate cough etiquette includes:

- Cough or sneeze into elbow crease if no tissue is available
- Cover the mouth and nose with a tissue when coughing or sneezing and immediately disposing of tissue into wastebasket and;
- Practice hand hygiene often.
- Classrooms will be supplied with tissues

VACCINE-PREVENTABLE DISEASES

Immunizations and Requirements

Vaccine-preventable diseases include, at the time this document was created, chickenpox (varicella), diphtheria, Haemophilus influenzae type b (Hib), hepatitis A, hepatitis B, invasive pneumococcal disease, pertussis, polio, measles, mumps, rubella, and tetanus.

Missouri statutes (167.181) specifies minimum immunization requirements for enrollment in school. These requirements apply to all students attending a City of St. Louis pre-school program and kindergarten through grade twelve.

Every year, DHSS updates and distributes the most current childhood immunization recommendations and school requirements to all schools that have kindergartens and 7th grades. It is the responsibility of the school nurse and the Family Resource Center to obtain the most current version of the childhood immunization schedule and requirements for school entry.

Exclusion

In accordance with the law and regulations, provides for exclusion of students from school if immunizations are not up to date, but exemptions are permitted at school entry for medical and religious reasons. The only exception for exclusion of unimmunized or partially immunized children without medical or religious exemptions is for homeless children: The federal McKinney Vento Homeless Assistance Act of 2001 stipulates that homeless children cannot be denied entry to school for not possessing immunization records.

DOH is authorized to implement and enforce the requirements for isolation and quarantine pursuant to 105 C.M.R. 300.200.

Exclusion During Disease Outbreaks

In situations when one or more cases of disease are present in a school, all susceptibles, students and staff, **including those with medical or religious exemptions**, are subject to exclusion as described in DHSS statute (19 CSR 20-20.030). The reporting and control of diseases identified as posing a risk to the public health is prescribed by state regulation and law.

Notification

The school nurse and school physician in collaboration with DOH determine whether some or all parents/guardians and staff should be notified immediately.

Teachers and Staff

DOH recommends that *all* adults working in schools (including volunteers and student teachers) have immunity to measles, mumps, rubella, diphtheria, tetanus, and chickenpox. An annual influenza vaccination is also recommended for those who are in contact with children.

DOH in collaboration with the school nurses maintain confidential immunization records for school staff, because staff members without documentation of immunity may be excluded if a vaccine preventable disease manifests in the school.

Reporting Requirements

The School Nurse will report to DOH if a documented case of any of the diseases listed below occurs in the school (19 CSR 20-20.020).

Diseases that must be reported:

- chickenpox (varicella);
- diphtheria;
- *Haemophilus influenzae* type b (Hib);
- hepatitis A; See “Diseases Spread Through the Intestinal Tract”
- hepatitis B; See “Diseases Spread Through the Intestinal Tract”
- pertussis;
- polio;
- measles;
- mumps;
- rubella;
- other, as directed by public health authorities

Standard Measures

The following measures will be taken in the event of the occurrence of any of the vaccine preventable diseases listed above. Exceptions and specific additional measures will be noted in sections discussing each disease. The school nurse will notify the DOH and under the direction of Public Health will:

- Exclude infected individuals during their infectious period.
- Collaborate with DOH Public Health Nurses to identify who has been exposed, determining the “zones of exposure” for the disease (see below).
- Identify all susceptibles among exposed students and staff.
- Identify high-risk, exposed susceptibles and refer them to their health care providers.

- Exclude all exposed susceptibles who cannot be vaccinated (or take antibiotics if indicated) for medical or religious reasons during the appropriate time period.
- Notify students, staff, parents/guardians, and others.
 - Conduct surveillance for two incubation periods.

School Attendance Guidelines

Control measures for vaccine-preventable diseases are complex. Procedures are updated regularly as new vaccines are licensed or as national guidelines change. Detailed nursing protocol confirms with DHSS [Prevention and Control of Communicable Diseases](#). Below, general information for attendance is provided, but is subject to change due to laws and public health authority. The school nurse, in collaboration with DOH, student's primary care physician and DHSS are responsible for determining school attendance.

Varicella/Vaccine Modified Varicella Syndrome: If students or staff have had chickenpox disease with vesicles present, they may return to school when all blisters are crusted over and dry. If no vesicles were present, they may return to school when the lesions are faded (i.e., the skin lesions are in the process of resolving; lesions do not need to be completely resolved) or no new lesions appear within a 24-hour period, whichever is later.

Shingles: Same as varicella.

Diphtheria: No identified cases or carriers of *C. diphtheriae* may return to school until two cultures from the nose, throat, or skin sores are negative for the bacteria.

Haemophilus Influenzae Type B Illness (Hib Disease): Children and staff who are not ill with Hib disease may return as soon as the appropriate antibiotic treatment has begun. Children or staff who are ill should be excluded while they are ill and until 24 hours after initiating antimicrobial treatment.

Measles: A student or staff member with measles should not return until at least 4 days after the appearance of the rash (counting the day of rash onset as day zero).

If there is one case of measles, susceptible individuals must be excluded from days 5 through 21, after exposure to the case during the infectious period. If exposure was continuous, or there were multiple exposures, these individuals must be excluded through the 21st day after rash onset in the last case. After exposure, those defined as susceptible are individuals *without* proof of immunity, as defined by:

- Born in the U.S. before January 1, 1957 (with the exception of individuals in the health care setting, where year of birth doesn't apply).
- Two doses of measles-containing vaccine given at least 4 weeks apart, beginning at ≥ 12 months of age, *and* the second dose given prior to or within 72 hours of exposure. (In some situations, individuals receiving their first dose within 72 hours of exposure will be considered immune.)
- Serologic proof of immunity.

When case(s) of disease occur, susceptible individuals, including those with medical or religious exemptions who are not vaccinated, **must also be** excluded for the appropriate time period as outlined in *Rules of Department of Health and Senior Services* (19 CSR 20-20.030).

Additional prevention guidelines: Measles is one of the few diseases that *can* be prevented through prompt immunization after exposure. If a case is reported *or* suspected, all susceptible students and staff who are without contraindication to vaccine should be immunized *within 72 hours of exposure*.

Mumps: A student or staff member will be excluded until 9 days after the onset of swelling (counting the initial day of gland swelling as day zero).

Pertussis (Whooping Cough): A student or staff member with confirmed pertussis will be excluded until 3 weeks after the onset of cough or after they have completed 5 days of appropriate antibiotic therapy.

Polio: Individuals with polio should be excluded for 6 weeks after onset or until the virus can no longer be recovered from sample.

Rubella: A student or staff member with rubella may return 7 days after the onset of the rash (counting the day of rash onset as day zero). Unimmunized persons must also be excluded until 21 days after the date of rash onset in the last case.

DISEASES SPREAD THROUGH THE INTESTINAL TRACT

Because students and staff who have intestinal tract diseases do not always feel sick or have diarrhea, the best method for preventing spread of these diseases is an ongoing prevention program. DOH believes the best prevention program is to promote hand washing after using the bathroom and before preparing or eating food. In addition, DOH recommends all schools ensure that bathrooms have an adequate supply of soap (preferably liquid), running water, paper towels, and toilet paper.

Prevention Guidelines for Infectious Diarrhea:

- Strictly enforce all handwashing, bathroom, diapering, and cleanliness procedures.
- Carefully monitor field trips to farms, cider mills, and petting zoos. Students should not be allowed to drink raw or unpasteurized milk or apple cider, and they should wash their hands after contact with any animals. If hand washing facilities will not be available, provide students with waterless, alcohol-based hand sanitizers.
- Be careful about choosing pets for the classroom. Reptiles such as snakes, iguanas, and turtles can shed salmonella and are poor choices as classroom pets.
- Enforce environmental cleaning and sanitation.
- Instruct students and staff not to share food, drink, or eating/drinking utensils.
- Sharing of water bottles by sports teams should be particularly discouraged.

School Attendance and Return Guidelines for Infectious Diarrhea:

- When students or staff have uncontrolled, severe, or bloody diarrhea and fever or vomiting, or if diarrhea cannot be contained by diapers (in those students using them), they will be excluded until fever and diarrhea are gone
- When students or staff have mild diarrhea, take special precautions or exclude.
- When students or staff who do not prepare food or feed students are found to have infectious diarrheal organisms in their stool (positive stool tests) but have no diarrhea or illness symptoms, take special precautions but do not exclude them. However, during outbreaks, a negative stool test may be required to permit attendance.
- When staff who prepare food or feed children have positive stool tests, exclude them from these duties until the isolation and quarantine ([19 CSR 20-20.030](#)) back-to-work requirements are met regarding that particular organism.

Salmonella, Shigella, E. coli O157:H7, Campylobacter: See school attendance and return guidelines for infectious diarrhea above.

Pinworm: Because pinworms are not considered an emergency, students or staff identified with pinworms do not need to be sent home from school. Infected individuals will be referred to a health care provider for diagnosis and treatment and may return after treatment has begun. When pinworm infection occurs in a school, the school nurse and school physician will determine, based on their judgment, whether some or all parents/guardians and staff should be notified.

Hepatitis A: Children and adults with acute hepatitis A will be excluded from school for 1 week after the onset of the illness or until their fever has resolved, whichever is later.

Giardia: See school attendance and return guidelines above.

Norovirus: See school attendance and return guidelines for infectious diarrhea in the introduction to this section.

Additional necessary measures during outbreaks: Since norovirus is very easily transmitted person-to-person, staff and students should be reminded not to share food, drink, or eating utensils, especially during an outbreak. It is essential to strictly follow the precautionary measures; monitor and enforce hand washing and ensure that hand washing facilities are properly supplied. When norovirus outbreaks are identified, thorough environmental cleaning is essential, especially where vomiting has occurred.

Hand, Foot, and Mouth Disease (Coxsackievirus): There is no need to exclude anyone who is well enough to attend school.

Prevention guidelines: Follow strict handwashing and personal hygiene procedures. Always wash hands after using the bathroom, after diapering or assisting a student in the bathroom, and before eating or handling food. Careful attention to environmental cleaning and sanitation is also very important in reducing spread. For additional prevention guidelines, see the “Infection Prevention and Control in the School Setting” section in this Administrative Guidelines.

DISEASES SPREAD THROUGH THE RESPIRATORY TRACT

Respiratory tract diseases are spread primarily through microscopic infectious droplets (droplet transmission) generated in or settling on the mucous membranes of the nose, mouth, throat, or eye. These droplets are generated by a person primarily during coughing, sneezing, talking, or nose blowing. Group A streptococcus and *Neisseria meningitidis* are examples of bacteria that are droplet-borne. Respiratory transmission of infectious particles is less frequent and occurs when very small ($\leq 5\mu\text{m}$) particles remain suspended in the air for long periods of time, or when dust particles contain the infectious agent. Measles and tuberculosis are examples of diseases spread through respiratory transmission.

Respiratory tract diseases may be mild (viral colds and strep throat) or life-threatening (bacterial meningitis). Some of these diseases are more common in children; others, like the viral cold, affect all ages fairly equally.

Prevention Guidelines:

- Hand washing and cleanliness are essential to stop the spread of all respiratory tract diseases. Hands should be washed with soap and warm running water or an alcohol-based hand sanitizer.
- Encourage staff and students to wash their hands after wiping or blowing noses; after contact with any nose, throat, or eye secretions; and before preparing or eating food.
- Keep a supply of disposable towels, alcohol-based hand gel, and tissues in each classroom, and encourage their use.
- Dispose of towels or tissues contaminated with nose, throat, or eye fluids in a step-can with a plastic liner. Keep them away from food and classroom materials.
- Teach children and staff to cough or sneeze toward the floor or to one side, away from people. If they sneeze or cough into a hand or tissue, they must properly dispose of the tissue and wash their hands.
 - Discourage the sharing of food and/or beverages, including water bottles.

Colds and Influenza: The school nurse, through clinical assessment, will determine when a student or staff member should go home. Fever guidelines are 100.4° F or higher under the arm, 101.5° F by mouth. Sick students and staff should stay home from school until they have been without fever and have not used fever reducing medication for 24 hours, to help prevent spreading illness to others.

Group A Streptococcal Infections: (strep throat, scarlet fever, etc.) People with streptococcal pharyngitis should not return to school until at least 24 hours after beginning appropriate antibiotic treatment and resolution of their fever. Mildly ill students and staff can continue to attend school while awaiting the results of a strep culture. Antibiotics should be taken for the full course of prescribed treatment, primarily to prevent rheumatic fever or other complications.

Fifth Disease (*Erythema Infectiosum*): Students or staff with fifth disease should continue to attend school. By the time they are diagnosed with the rash, they are usually no longer contagious.

Special note for pregnant women and women of childbearing age: In view of the high prevalence of parvovirus B19 infections, the low incidence of ill effects on the fetus, and the fact that avoidance of child care or classroom teaching can decrease but not eliminate the risk of exposure, routine exclusion of pregnant women or women of childbearing age from a school where this disease is occurring is not recommended. Pregnant students and staff in schools where fifth disease is circulating should be referred to their health care providers for counseling and possible serologic testing. Women of childbearing age who are concerned can also undergo serologic testing prior to or at the time of exposure to determine if they are immune to the disease.

Invasive Meningococcal Disease: Individuals with invasive meningococcal disease are generally too ill to attend school. They may return to school when they are well (after hospital treatment).

Various strains of the bacterium *Neisseria meningitidis* can cause invasive meningococcal disease that is serious and sometimes fatal. The most common illness is meningitis, an inflammation of the coverings of the brain and spinal cord. People with invasive meningococcal disease are usually very ill and are hospitalized.

- **Notification guidelines:** The school nurse and school physician, collaborating with DOH and school officials, will develop a system for immediate notification of appropriate parties, including parents/guardians and staff.

Severe Acute Respiratory Syndrome: If a student or staff member has SARS, is suspected of having SARS, or has been exposed to a person with SARS, the DOH and DHSS in collaboration with school officials will recommend and enforce

appropriate public health actions. These may include isolation, quarantine and information dissemination and will be determined by circumstances and available information.

Meningitis: Since fecal shedding of virus can continue for several weeks after onset of infection and can also occur without signs of clinical illness, there is no reason to keep people out of school if they feel well enough to attend. For school attendance guidelines for Hib or pneumococcal or meningococcal meningitis, refer to the appropriate section.

- ***Notification guidelines:*** The school nurse and school physician will decide, based on their judgment, whether some or all parents/guardians or staff should be notified.

Infectious Mononucleosis: Since both sick and healthy people can carry and spread this virus intermittently for life, there is no need to exclude students or adults with this disease, as long as they are feeling well.

Tuberculosis: students or staff diagnosed with suspected or confirmed TB disease should not attend school or work in schools until they have begun taking prescribed TB antibiotics and their health care provider states in writing that they are not contagious. Students or staff who have a positive TB skin test and no symptoms of active TB should *not* be restricted from school.

What School Administrators, Staff, and Parents/Guardians Should Know About TB:

- Infants and young children under age 10 with TB lung disease are usually *not* contagious.
- The DOH recommends a *TB risk assessment*, performed by the child's health care provider prior to the child's entry into school. Students or staff who have a positive TB skin test and no symptoms of TB should *not* be restricted from school.
- In, Missouri, TB screening for school employees and volunteers is required.

DISEASES SPREAD THROUGH DIRECT CONTACT

Diseases spread through direct contact include impetigo, ringworm, conjunctivitis, scabies, pediculosis, and herpes simplex infection and are caused by superficial bacterial or viral infections or parasitic infestations. They are common and are generally not serious. They are spread by direct contact with infectious secretions, infected skin areas, or contaminated objects. Because students are constantly

touching their surroundings and the people around them, these infections are easily spread among students and staff.

Prevention Guidelines

- Follow hand hygiene guidelines in the “Infection Prevention and Control in the School Setting” section in this chapter.
- Encourage staff and students to wash their hands after contact with any possibly infectious secretions.
- Keep a supply of disposable towels, alcohol-based hand gel, and tissues in each classroom, and encourage their use.
- Dispose of towels or tissues contaminated with secretions in a step-can with a plastic liner. Keep them away from food and classroom materials.
- Discourage the sharing of food and/or beverages, including water bottles.
- Wash frequently used surfaces such as tables and counters daily.
- Do not permit students to share personal items such as combs, brushes, hats, or clothing.
- Provide adequate individual storage areas for students’ clothing items such as coats, hats, scarves, and mittens.
- Wash and cover sores, cuts, and scrapes promptly, and keep infected eyes wiped dry.
- Report rashes, sores, runny eyes, and severe itching to a student’s parents/guardians so they may contact their health care provider for diagnosis and appropriate treatment.

Impetigo: Impetigo is not considered an emergency, so students or staff identified with a suspected impetigo rash during the day do not need to be sent home from school. Sores should be kept lightly covered. Affected students and staff may return to school after 24 hours of local therapy.

A note about antimicrobial resistance and resistant staph: Some kinds of staph are resistant to certain antibiotics that may be used to treat an infection. Methicillin-resistant *Staphylococcus aureus* (MRSA) is resistant to a family of antibiotics related to penicillin, including methicillin and oxacillin. Like other staph, MRSA may be carried on the nose or skin without causing an infection, or may cause mild skin infections (like impetigo) that do not require antibiotic treatment. MRSA does not usually cause more serious problems than any other staph, but when MRSA does cause an infection that needs antibiotic treatment, the correct antibiotics must be used in order to be effective. Infections with MRSA are relatively rare in community settings (that is, outside of hospitals and nursing homes), but they are increasing. For more information concerning antibiotic resistance and MRSA, including information for school nurses, please go to the following page on the DHSS website:
<https://health.mo.gov/data/mrsavre/pdf/MRSASchools.pdf>

Ringworm (Tinea): There is no need to exclude students or staff with these common, mild infections. If the affected area can be covered, there is no need for dismissal. School nurse will notify parent/guardian for treatment, and student may return to school as soon as treatment has begun.

Conjunctivitis (Pinkeye): Conjunctivitis is not an emergency, so students or staff who are identified as having conjunctivitis at school do not need to be sent home from school that day.

Scabies: Scabies is not considered an emergency, so students or staff identified as having a rash that appears to be scabies at school do not need to be sent home that day.

Pediculosis (Head Lice): Children need not be excluded or sent home early from school because of head lice. The school nurse will contact parents/guardians of affected children to inform them that their children must be properly treated and may return to school on the day after treatment.

Due to the sensitive nature and confidentiality violation, DOH does not support the use of volunteer/parent/guardian lice inspection.

Herpes Simplex Infection: Exclusion of children with cold sores (i.e., recurrent infection) from school is not indicated.

DISEASES SPREAD THROUGH BLOOD CONTACT

Bloodborne infections such as hepatitis B (HBV), hepatitis C (HCV), and human immunodeficiency virus (HIV) are serious illnesses that are spread through direct contact with blood and body fluids. Because intimate contact is required for these diseases to spread, the risk of transmission in the school setting is negligible. However, during adolescence, the likelihood of becoming infected with HIV and HCV increases proportionally with sexual activity, injection drug use, tattooing, and piercing. Fortunately, as a result of vaccination programs, the risk of transmission of HBV among all students is very low.

All school staff will be educated annually on the use of standard precautions and specific ways to prevent contact with blood and body fluids.

If a question of occupational exposure to hepatitis and HIV arises, consult the PEPline (Post-Exposure Prophylaxis Hotline) at <http://www.ucsf.edu/hivcntr>.

Available evidence indicates that the risk of transmission of all these diseases is also low during contact sports at the high-school level. Recommendations issued by the American Academy of Pediatrics (AAP) in 1999 for the prevention of HIV and other bloodborne pathogens in the athletic setting include the following:

- Athletes infected with HIV, HBV, or HCV should be allowed to participate in all sports and do not need to disclose their infection status.
- Testing for bloodborne pathogens should *not* be mandatory for athletes.
- Coaches and athletes should be educated on the use of standard precautions and specific ways to prevent direct contact with blood and body fluids.
- Athletes must cover existing cuts, wounds, or other areas of broken skin with a dressing before and during participation.
- Disposable gloves should be worn to avoid contact with blood or other body fluids, as well as any equipment contaminated with these fluids. If gloves are not available, the wound should be wrapped with a towel until a location is reached where gloves can be donned for definitive treatment.
- Hands should be washed with soap and water or an alcohol-based hand cleanser *immediately* after removing gloves.

- Athletes with active bleeding should be removed from competition until the bleeding has stopped and the wound has been covered with an occlusive dressing.
- Equipment and inanimate surfaces contaminated with blood or body fluids should be disinfected with a 1:10 dilution of bleach for 30 seconds, or with any EPA-approved disinfectant.
- Mouthpieces or resuscitator bags should be available for use whenever resuscitation is carried out.

Hepatitis B: Staff and students who are ill with acute HBV infection should stay home until they feel well and until fever and jaundice are gone. Students who are chronically infected with HBV and who have no behavioral or medical risk factors, such as unusually aggressive behavior (e.g., biting), generalized dermatitis, or a bleeding problem, should be admitted to school and child care without restrictions.

Students and staff infected with HBV do not need to be identified to school personnel or parents/guardians of other children attending school or childcare.

Hepatitis C: There are no recommendations to exclude persons with hepatitis C from employment, school, sports, or any social situation. Students with hepatitis C do not need to be identified to school personnel.

HIV Infection and AIDS: Students with AIDS or HIV infection pose no risk of transmitting HIV through casual contact in a school setting. Students with HIV/AIDS have the same right to attend classes or participate in school programs and activities as any other student. The only exception is in the rare situation in which a student bleeds uncontrollably or exhibits behaviors that put others at risk. Universal blood and body fluid precautions, now included under “standard precautions,” in all school settings should apply.

No cases have ever been confirmed of HIV transmission from saliva, sweat, or tears. HIV is also *not* transmitted by:

- casual contact such as kissing or hugging;
- insect bites;
- food handled, prepared, or served by a person with HIV/AIDS;
- toilets, telephones, or clothes;
- shared eating utensils or drinking glasses;
- physical proximity to people with HIV/AIDS, in schools or other public places;
- feces or urine;
- blood donation;
- swimming pools and hot tubs; or
- shared musical instruments.

Under Missouri law (34 CFR 300.625), minors in certain circumstances may consent to their own dental care and medical testing and treatment, including treatment for HIV infection. This law mandates confidentiality of medical information and records except when an attending physician or dentist reasonably believes that the minor's condition is so serious that life or limb is endangered.

Protections and Policies

Confidentiality

As with any other medical information, the diagnosis of HIV infection and AIDS is confidential, and students are not obligated to disclose it. Since individuals with AIDS or HIV infection typically pose no public health threat to others by their presence in the school, their medical information is protected.

The privacy of students with HIV infection or AIDS is protected under state privacy law (34 CFR 300.623, which protects against unwarranted invasion of privacy, and by 34 CFR 300.622, which prohibits health care providers and facilities (including school-based clinics) from disclosing HIV test results (or the fact that a test has been performed) without specific, informed, written consent of the person tested. The consent should include the name of the individual to whom the disclosure is to be made. Disclosure by school personnel is also restricted by FERPA (Family Educational Rights and Privacy Act).

Disclosure

A student and/or his or her parent/guardian may wish to disclose the diagnosis of AIDS or HIV infection to the school nurse or school physician, even though they are not obligated to do so. Reasons include:

- A student diagnosed with AIDS or HIV infection may be at a greater risk for other infections. If there is an occurrence of a contagious disease in school, such as chickenpox, the school nurse or physician who is aware of a student's HIV status can alert the student's parent/guardian, who then may consult their personal physician for preventive treatment or a recommendation to keep the child at home.
- A young person with AIDS or HIV infection may be taking medications that should be administered by a health care professional, or he or she may require immunizations (vaccines) different from those of other students or not be able to receive certain vaccines. Schools are bound by state law to comply with regulations governing the administration of medication (The Missouri Nurse Practice Act: Chapter 335, RSMo) and to determine whether a student has had certain immunizations. (See first section in this chapter on immunization requirements.) Therefore, a parent/guardian may decide

that knowledge of an AIDS diagnosis or HIV infection will help the school nurse or school physician meet the child's medical needs.

If, in consultation with the student's primary care physician, a parent/guardian decides to inform certain school personnel, particularly the school nurse and school physician, of the student's HIV/AIDS status, the DESE recommends and notes the following:

- The student's parent/guardian or the student may inform the school nurse or school physician directly.
- The student's parent/guardian may request that the child's personal care physician make the disclosure. In this case, specific, informed, written consent of the student's parent/guardian is required before the physician may disclose the information.
- Further disclosure of a student's HIV status by the school nurse or school physician to other school personnel requires the specific, informed, written consent of the student's parent/guardian or of the student, informing his or her own decisions under FERPA.

A student and the student's parent/guardian may also decide to inform the student's teacher(s), counselor, school principal, or other staff members, but they are not obliged to do so. This is *their* decision alone. Given the privacy protection of Family Educational Rights and Privacy Act (FERPA) and state student record regulations, all school personnel are bound to protect confidentiality.

If and when informed, written consent is given enabling school staff to disclose to others in the school, the form or letter giving this consent should spell out specifically which individuals can be informed, what information is to be shared, and a timeframe during which this consent applies. It should specify *names* of individuals, not their titles or roles in the school. Staff titles and positions change, and a student's family may not want a new person holding the position to be informed.

Privacy of Records

Because licensed physicians, nurses, social workers, and psychologists (according to the federal Health Insurance Portability and Accountability Act (HIPAA) Privacy Rule, 45 C.F.R. 164) have a duty to protect HIV/AIDS-related and other private information, the signed consent form and any HIV/AIDS-related information will be kept by the school nurse in a locked file separate from the school health record.

DISEASES SPREAD FROM ANIMALS TO PEOPLE (ZOO NOTIC DISEASES)

Diseases spread from animals to people are called *zoonotic diseases*. Some foodborne and waterborne diseases that may be traced to disease in animals are salmonellosis, campylobacteriosis, and giardiasis, discussed earlier in this chapter.

The three disease categories discussed in this section are rabies, tickborne diseases, and arboviral (mosquito-borne) diseases, none of which are transmitted person-to-person.

Animals in the Classroom

Animals can be effective teaching aids, and the benefits of the human-animal bond are well established. However, animals in the classroom necessitate certain safeguards. Because diseases can be transmitted from animals to people, consideration should be given to potential health issues before bringing animals into the classroom.

Animals may carry parasites, bacteria, and other organisms that can be transmitted to people. Zoonotic diseases can be spread by direct contact with an infected animal or its feces, through insects that bite or live on animals, or from contact with organisms that live in the environment where an animal lives. Certain groups of people may be more susceptible to zoonotic diseases, including infants, children, pregnant women, and those with weakened immune systems.

In order to prevent the transmission of enteric disease-causing organisms, students should receive very clear instructions on how to wash their hands thoroughly after handling animals, their cages, or surfaces animals have come in contact with, and always before eating. For questions on safe and proper handling procedures, contact the DOH, Communicable Disease Bureau at (314) 657-1499.

Centers for Disease Control and Prevention (CDC) guidelines on animals in classrooms are available at <https://www.cdc.gov/healthypets/specific-groups/schools.html>.

Rabies: When any animal bites or scratches a student, school personnel should notify the student's parent/guardian and the City of St. Louis Animal Control and DOH. All animal bites should be reported to the DOH and local animal control official. Dogs, cats, and ferrets that bite people must be observed for signs of rabies. Wild animals that bite children should be captured by the local animal control official and submitted to the State Laboratory for rabies testing.

Tickborne Diseases: There is no need to exclude students or adults bitten by a tick, those diagnosed with a tickborne illness, or those exposed to an individual diagnosed with these diseases.

Prevention guidelines: When outdoors, on field trips or in areas that may harbor ticks, students should:

- Stick to main pathways and the center of trails when hiking.
- Wear long-sleeved, light-colored shirts and long pants tucked into socks.
- Use repellents, according to the manufacturer's recommendations. The two most common active ingredients in repellents are DEET (N-N-diethyl-meta-toluamide) and permethrin. These products remain effective for many hours, so it is not necessary to frequently reapply them.

After returning indoors, students should be told to:

- Check for ticks immediately. This is critical because the longer an infected tick remains attached, the higher the likelihood of disease transmission. Favorite places ticks like to go on the body include between toes, behind knees, groin, armpits, neck, hairline, and behind ears.
- Wash repellent-treated areas with soap and water. (Note: Parents/guardians should also launder treated clothing before reuse.)

If an attached tick is found:

- Students or staff should notify the school nurse immediately.

Facts About Repellents

Repellents containing DEET can be applied to exposed skin and clothing. DEET is effective in repelling ticks and insects when used according to the manufacturer's recommendations. Since DEET can be absorbed through the skin, and in rare cases causes illness, students or parents/guardians should not apply too much, not apply it to broken skin, and not apply it to skin that will be covered by clothing. Repellents should not be applied in closed spaces such as cars or tents. Repellents used on young children should not be applied to hands or faces, as children often rub their eyes and faces and put their fingers in their mouths. Products with DEET concentrations above 10%-15% should be avoided in children, and products with DEET concentrations above 30%-35% should be avoided in adults.

If parents/guardians are concerned about exposures to chemicals, they can be instructed to use the lowest concentration of DEET that provides protection for the length of time the student will be exposed to mosquitoes. Higher concentrations of DEET may provide protection for a longer period of time, but they do not provide better protection.

Permethrin-containing products kill ticks that contact them. Permethrin products are not designed to be applied to the skin. Clothing should be treated and allowed to dry in a well-ventilated area prior to wearing. Because permethrin binds very tightly to fabrics, once the fabric is dry, very little of the permethrin gets onto the skin.

A number of plant-derived products are also available for use as repellents. Limited information is available regarding the short-term and long-term health effects and overall effectiveness of these products. The information that is available indicates that these products do not provide the same level or duration of protection as DEET or permethrin-containing products.

Arboviral Diseases (Disease Spread by Mosquitoes): Because these diseases are not spread person-to-person, there is no need to exclude students or adults diagnosed with or exposed to an individual diagnosed with EEEV or WNV.

- ***Notification guidelines:*** Parents/guardians should be notified of potential health risks before students engage in a school-sponsored outdoor activity where they could be exposed to mosquitoes. Parents/guardians should apply repellent before field trips or teach their children how to apply repellent. Per existing state regulations and school-based guidelines, the school should develop protocols and procedures for notifying and educating parents/guardians about potential health risks and clarifying the home and school's roles and responsibilities.

Prevention guidelines: No human vaccine is available for EEEV or WNV. The following personal protection measures are effective in reducing contact with mosquitoes:

- Wear long-sleeved shirts and long pants.
- Stay indoors at dawn and dusk, when mosquitoes are most active.
- Use mosquito netting on baby carriages or playpens when a baby is taken outdoors.
- Make sure screens are repaired and are tightly attached to doors and windows.
- Make sure water does not collect in school playground equipment, maintenance equipment, or landscaping materials that are left unattended for long periods of time. Remove standing water from ditches, gutters, old tires, wheelbarrows, and wading pools. Mosquitoes that bite people can begin to grow in any puddle of standing water that exists for more than four days.

- Children on field trips should avoid camping overnight near freshwater swamps to reduce their risk of exposure to mosquitoes that carry EEEV. If a trip is scheduled, notify parents/guardians of the risk, use tents with mosquito netting, and use appropriate repellents.
- Use mosquito repellents, making sure to follow directions on the label.

Repellents should be used according to the manufacturer's recommendations. The two most common active ingredients in repellents are DEET and permethrin. Because these products remain effective for many hours, it is not necessary to reapply them frequently. For additional information, see "Facts About Repellents" in the "Tickborne Diseases" section.

SPORTS-ASSOCIATED INFECTIOUS DISEASES

Transmission of infectious diseases in sports settings usually occurs via direct contact, the fecal-oral route, common-source exposure, or respiratory and/or droplet spread. Exposure risk may extend to individual athletes, entire teams, and spectators. In some cases, disease transmission is unavoidable due to infectiousness before symptoms become apparent. In other cases, disease spreads when many people congregate together or share water bottles or other eating/drinking utensils. The following chart lists some infectious diseases that have occurred due to sports-related activities.

Sports-Associated Infectious Diseases

<i>Disease</i>	<i>Mode of transmission</i>	<i>Sport</i>
<u>Skin</u> <ul style="list-style-type: none"> • Herpes simplex virus (HSV) • (<i>herpes gladiatorum</i>) • <i>Staphylococcus aureus</i> • Group A streptococci • Fungi 	Direct contact	Wrestling, rugby, sumo wrestling, basketball, football
<u>Skin</u> <ul style="list-style-type: none"> • <i>Pseudomonas aeruginosa</i> 	Common-source	Swimming

<u>Gastrointestinal/Respiratory</u> <ul style="list-style-type: none"> Enteroviruses (coxsackievirus, echoviruses) 	Common-source or fecal-oral	Team sports
<ul style="list-style-type: none"> Meningococcal disease 	Saliva exchange, droplet	Team sports
<ul style="list-style-type: none"> Measles 	Respiratory or droplet	Tournaments involving gymnastics, basketball, wrestling, other indoor sports

Team physicians, trainers, school nurses, physical education teachers, and others involved with the health of the student athlete should not only be able to recognize and manage acute problems but also institute policies for the prevention of disease transmission. Good general hygiene practices and limiting exposure of infected individuals form the basis for the following recommendations:

- Coaches, trainers, and physical education instructors should be educated about the need to prevent sharing of water bottles and pails by athletes during sports-related activities.
- Students diagnosed with skin infections should be cautioned about their participation in sports involving close physical contact. Players with open lesions that cannot be covered should not be permitted to participate in sports where they could transmit disease to others. Teammates, coaches, and officials must be actively involved in recognizing these infections.
- All athletic equipment in contact with a student's skin or secretions should be routinely cleaned after use. This would include, but not be limited to, gymnastic and wrestling mats, towels, mouth guards, and other protective equipment.
- All students must be vaccinated against communicable diseases, as described in the section on immunizations.
- When airborne diseases occur, a mechanism should be in place to inform everyone determined to be exposed, including athletes, staff, and spectators.
- Athletes with symptoms of an infectious disease should not be permitted to participate in sports activities until they are evaluated by their health care provider and are not infectious.
- DOH should be notified immediately of a case or suspected case of a reportable disease in an athlete.

- Any outbreaks of infectious disease occurring in the school, regardless of cause, should be reported to public health officials to ensure prompt investigation and institution of control measures.

General prevention guidelines pertaining to particular modes of disease transmission can be found throughout this chapter.

A note about antimicrobial resistance and resistant staph: Some kinds of staph are resistant to certain antibiotics that may be used to treat an infection. Methicillin-resistant *Staphylococcus aureus* (MRSA) is resistant to a family of antibiotics related to penicillin, including methicillin and oxacillin. Like other staph, MRSA may be carried on the nose or skin without causing an infection, or may cause mild skin infections (like impetigo) that do not require antibiotic treatment. MRSA does not usually cause more serious problems than any other staph, but when MRSA does cause an infection that needs antibiotic treatment, the correct antibiotics must be used in order to be effective.

Infections with MRSA are relatively rare in community settings (that is, outside of hospitals and nursing homes), but they are increasing. Small clusters of MRSA infections have been associated with playing contact sports, particularly those sports which involve a lot of direct skin-to-skin contact, and which may involve skin damage (cuts and scrapes). For more information concerning antibiotic resistance and MRSA, including information for school nurses, coaches, and athletic directors, please go to the following page on the DHSS website:

<https://health.mo.gov/data/mrsavre/pdf/MRSASchools.pdf>